Patent Claims

1. Method for vapor-depositing a substrate with a multicomponent evaporating material, which by means of electron beam or resistance heating is transformed into the vapor phase, characterized in that the evaporized evaporating material deposits as a precious-metal-coloured coating on the substrate.

2. Method according to claim 1, wherein the precious-metal-coloured coating is gold-coloured.

3. Method according to claim 1 or 2, wherein the evaporating material consists of individual components in separate crucibles.

4. Method according to at least one of the claims 1 to 3, wherein the evaporating material is an alloy.

5. Method according to at least one of the claims 1 to 4, wherein the evaporating material comprises one or several metals from the group containing copper (Cu), aluminum (Al), tin (Sn) and silver (Ag).

6. Method according to at least one of the claims 1 to 5, wherein the evaporating material comprises Al/Cu or Sn/Cu or Ag/Cu or Ag/Sn/Cu.

7. Method according to at least one of the claims 1 to 6, wherein the coating comprises 5 to 15 weight per cent aluminum and 85 to 95 weight per cent copper.

8. Method according to at least one of the claims 1 to 7, wherein the evaporating material comprises at least one foreign metal.

9. Method according to claim 8, wherein the foreign metal is chosen from the group of iron, manganese, vanadium, chromium, cobalt, silicon, magnesium, zinc or titanium.

10. Method according to at least one of the claims 1 to 9, wherein on the substrate

are deposited different precious-metal-coloured coatings.

11. Method according to at least one of the claims 1 to 10, wherein the substrate is a plastic film.

12. Method according to at least one of the claims 1 to 11, wherein the coating is deposited in a layer thickness of 50 to 100 nm.

13. Method according to at least one of the claims 1 to 12, wherein before the coating process diffraction structures are embossed into the substrate.

14. Method according to at least one of the claims 1 to 13, wherein after the coating process the substrate is cut in a strip-shaped or ribbon-shaped fashion.

15. Method according to at least one of the claims 1 to 14, wherein the layer thickness of the coating is determined by means of transmission measuring and/or the composition of the coating is determined by means of reflection measuring, and possibly existing deviations in layer thickness and/or composition from the desired value are corrected by means of heating power and/or path speed with which the substrate to be coated is moved.

16. Method according to at least one of the claims 1 to 15, wherein the coating is removed from the substrate and broken into small plates, which, optionally, can be processed into printing ink.

17. Object, in particular security element or transfer element for security papers, bank notes, identity cards and the like, produced according to at least one of the claims 1 to 16.

18. Object, in particular security element or transfer element for security papers, bank notes, identity cards and the like with a substrate on which at least one coating made of a precious-metal-coloured alloy is present.

19. Object, in particular security element or transfer element according to claim 18, wherein the alloy is gold-coloured.

20. Object, in particular security element or transfer element according to claim 18 or 19, wherein the alloy comprises copper.

21. Object, in particular security element or transfer element according to at least one of the claims 18 to 20, wherein the alloy comprises aluminum and/or tin and/or silver.

22. Object, in particular security element or transfer element according to at least one of the claims 18 to 21, wherein the alloy comprises 8 weight per cent aluminum and 92 weight per cent copper.

23. Object, in particular security element or transfer element according to at least one of the claims 18 to 22, wherein the alloy comprises at least one foreign metal.

24. Object, in particular security element or transfer element according to claim 23, wherein the foreign metal is chosen from the group of iron, manganese, vanadium, chromium, cobalt, silicon, magnesium, zinc or titanium.

25. Object, in particular security element or transfer element according to at least one of the claims 18 to 24, wherein the substrate is a plastic film.

26. Object, in particular security element or transfer element according to at least one of the claims 18 to 25, wherein the coating has a layer thickness of 50 to 100 nm.

27. Object, in particular security element or transfer element according to at least one of the claims 18 to 26, wherein the coating is at least partially overlaid with diffraction structures.

28. Object, in particular security element or transfer element according to claim 27, wherein the diffraction structures are embossed in the substrate.

29. Object, in particular security element according to at least one of the claims 17 to 28, wherein the security element is a self-supporting label.

30. Object, in particular security element according to at least one of the claims 17 to 28, wherein the security element is a security thread.

31. Security paper for producing documents of value or document of value, characterized in that it has at least one security element according to one of the claims 17 to 30.

32. Security paper or document of value according to claim 31, wherein the security element is a security thread and embedded at least partially in the security paper.

33. Security paper or document of value according to claim 31, wherein the security element is a transfer element, which is applied to the surface of the security paper.

34. Use of a security element or transfer element according to at least one of the claims 17 to 30 for protecting goods of any kind from forgery.

35. Use of a security paper or document of value according to at least one of the claims 31 to 33 for protecting goods of any kind from forgery.

36. Printing ink produced according to claim 16.